

**REMARKS**

Claims 30-31, 33-34 and 36 are canceled without prejudice, and therefore claims 11, 13, 15 to 23, 25 to 29, 32, 35 and 37 to 41 are now pending in the present application.

Reconsideration is respectfully requested for the reasons explained herein.

Claims 30, 33, and 36 were rejected under the first paragraph of 35 U.S.C. 112 as to the written description requirement.

Although the rejections may not be agreed with, claims 30, 33, and 36 have been canceled herein without prejudice.

Withdrawal of the written description rejections is therefore respectfully requested.

Claims 30 and 33 were rejected under the second paragraph of 35 U.S.C. 112 as being indefinite.

Although the rejections may not be agreed with, claims 30 and 33 have been canceled herein without prejudice.

Withdrawal of the indefiniteness rejections is therefore respectfully requested.

Claims 31, 34 and 35 were rejected under the second paragraph of 35 U.S.C. 112 as being indefinite.

Although the rejections may not be agreed with, claims 31 and 34 have been canceled herein without prejudice and claim 35 has been amended herein to address the rejection.

Withdrawal of the indefiniteness rejections is therefore respectfully requested.

Claim 36 was rejected under the second paragraph of 35 U.S.C. 112 as being indefinite.

Although the rejection may not be agreed with, claim 36 has been canceled herein without prejudice.

Withdrawal of the indefiniteness rejections is therefore respectfully requested.

Claims 11 to 13, 15, 20 to 23, 25 and 29 to 37 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,312,538 to Metrich ("Metrich").

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102(b), the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the claimed subject matter of the claims, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Office must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art.” (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine is not sustainable absent the foregoing conditions.

Although the rejections may not be agreed with, to facilitate matters, independent claims 11 and 21 have been rewritten to better clarify the presently claimed subject matter.

Regarding Metrich, even if the reference did concern a constant current source for supplying a pump current, it does not identically disclose or suggest the feature in which the constant current source is configured to be set to at least two values of the pump current and for alternating operation with ON phases and OFF phases, with the duration of the ON phases and OFF phases being specified; and the device is configured to predefine the number of ON phases and OFF phases, as provided for in claims 11 and 21, as presented.

Furthermore, it is respectfully submitted that the following reasons would also apply as to the language of claims 11 and 21 as previously presented because the new features presented herein do not raise any issues which have not already been searched/examined in the previous Office Action of March 3, 2010.

The Final Office Action (at pgs. 5, 6 and 16) conclusorily asserts that the above-noted features of the presently claimed subject matter are somehow disclosed by the Metrich

reference at col. 3, lines 9-12, col. 6, lines 13-16, col. 6, lines 55-63 and Fig. 2C. As an initial matter, it is respectfully submitted that the Office Action is interpreting the term "predefine" in an unreasonably broad manner. Claims 11 and 21 as presented include the feature in which **the device is configured to predefine** the number of ON phases and OFF phases. If a person must operate a device (as in Metrich) in order to determine a quantity (the number of ON phases and OFF phases) then it is unreasonable to consider that quantity to be predefined with respect to the device.

Furthermore, the Final Office Action asserts that the cited portions of Metrich disclose a device which provides a periodic supply of current with a **variable cyclic ratio** which is **controlled** by a measurement signal obtained **prior to the supply of current**. However, even if this were the case, the **variable i.e. not predefined** cyclic ratio would be **controlled (not defined)** by a measurement signal. Still further the measurement signal is obtained **continuously** with respect to the supply of current. For example, the text at col. 6, lines 21-25, indicates that as a result of such control (by a measurement signal), the average value of the current is, **at each instant**, representative of the air coefficient  $\lambda$  of the air/fuel mixture supplied to the internal combustion engine.

*Thus, the **variable cyclic ratio is controlled** by a measurement signal that is obtained **continuously** and therefore the assertion at pgs. 5-6 and 16 of the Office Action that the number of On phases and Off phases is **defined** by the **variable cyclic ratio known prior to the supply of current** is entirely unsupported. In fact, as can be seen clearly in Fig. 2C of Metrich, the number of On phases and Off phases cannot be known prior to the supply of current as asserted in the Office Action because the number of On phases and Off phases varies during each period  $T$  according to the control of a measurement signal that is received continuously during the period and therefore the number of On phases and Off phases is not predefined.*

Accordingly, claims 11 and 21 are allowable, as are their respective dependent claims. Withdrawal of the anticipation rejections of claims 11 to 13, 15, 20 to 23, 25 and 29 to 37 is therefore respectfully requested.

Claims 16, 19, 26, and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Metrich reference in view of U.S. Patent No. 5,895,564 to Miyata et al. ("Miyata").

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claims 16, 19, 26, and 28 ultimately depend from claims 11 and 21 respectively, as presented, and they are therefore allowable for the same reasons as explained above because the secondary Miyata does not cure – and is not asserted to cure – the critical deficiencies of the primary Metrich reference.

Accordingly, withdrawal of the obviousness rejections of claims 16, 19, 26, and 28 is respectfully requested.

Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Metrich reference in view of the Miyata reference in further view of U.S. Patent No. 6,623,618 to Kato et al. (“Kato”).

Claim 18 ultimately depends from claim 11, as presented, and it is therefore allowable for the same reasons as explained above because the secondary Miyata and Kato references do not cure – and are not asserted to cure – the critical deficiencies of the primary Metrich reference.

Accordingly, withdrawal of the obviousness rejection of claim 18 is respectfully requested.

Claims 17 and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Metrich reference in view of U.S. Patent No. 4,824,549 to Hamada et al. ("Hamada").

Claims 17 and 27 ultimately depend from claims 11 and 21 respectively, as presented, and they are therefore allowable for the same reasons as explained above because the secondary Hamada reference does not cure – and is not asserted to cure – the critical deficiencies of the primary Metrich reference.

Accordingly, withdrawal of the obviousness rejections of claims 17 and 27 is respectfully requested.

Claims 38 and 39 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Metrich reference in view of the Miyata reference, the Kato reference, and the Hamada reference.

Claims 38 and 39 ultimately depend from claim 11, as presented, and are therefore allowable for the same reasons as explained above because the secondary Miyata and Kato references do not cure – and are not asserted to cure – the critical deficiencies of the primary Metrich reference.

Accordingly, withdrawal of the obviousness rejections of claims 38 and 39 is respectfully requested.

Claims 40 and 41 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Metrich reference in view of U.S. Patent No. 4,927,517 to Mizutani et al. ("Mizutani").

Claims 40 and 41 ultimately depend from claims 11 and 21 respectively, as presented, and they are therefore allowable for the same reasons as explained above because the secondary Mizutani reference does not cure – and is not asserted to cure – the critical deficiencies of the primary Metrich reference.

Accordingly, withdrawal of the obviousness rejections of claims 40 and 41 is respectfully requested.

As further regards all of the obviousness rejections, any Official Notice is respectfully traversed to the extent that it is maintained and it is requested that the Examiner provide specific evidence to establish those assertions and/or contentions that may be supported by the Official Notices under 37 C.F.R. § 1.104(d)(2) or otherwise. In particular, it is respectfully requested that the Examiner provide an affidavit and/or that the Examiner provide published information concerning these assertions. This is because the § 103 rejections are apparently being based on assertions that draw on facts within the personal knowledge of the Examiner, since no support was provided for these otherwise conclusory and unsupported assertions. (See also MPEP § 2144.03).

Accordingly, claims 11, 13, 15 to 23, and 25 to 29, 32, 35 and 37 to 41 are allowable.

**CONCLUSION**

In view of the foregoing, all of pending claims 11, 13, 15 to 23, and 25 to 29, 32, 35 and 37 to 41 are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,  
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